REMARKS:

1) Marked-Up Versions of pages 1, 4, 5 and 6 of the specification are enclosed. These corrections do not include any new matter.

2) The new claims 37 to 70 are based on the original disclosure and on the original claims as follows.

New Claims	37	38	39	40	41	42	43	44	45	46	47	48
Original Claims + Disclosure	1+ pg.4, ln.7 to ln.21	3	4	5	6	7	8	9	10	11	11	12

New Claims	49	50	51	52	53	54	55	56	57	58	59	60
Original Claims + Disclosure	1+ pg.4, ln.7 to pg.6, ln.22	15	16	17	18	19	20	21	22	23	24	25

New Claims	61	62	63	64	65	66	67	68	69	70
Original Claims + Disclosure	27	27	28	29+ 31	30	32	33	1+ 34	35	36

The new claims do not contain any new matter.

3) The proposed amendment of the Title is intended to avoid the objection set forth at the top of page 2 of the Office Action. By referring to an organic electroluminescent device for emitting light, the title is more descriptive. Withdrawal of the objection to the title is respectfully requested.

4) The rejection of claims 11, 27, 35 and 36 under 35 U.S.C. §112, second paragraph is respectfully traversed. The objectionable terminology in claims 11 and 27 (now claims 46 and 61) has been avoided. The example itself has been defined in a respective additional dependent claim, namely claims 47 and 62.

5) Proper antecedent language has now been employed in claims 35 and 36, the content of which is now set forth in claims 69 and 70. Withdrawal of the rejection on formal grounds is respectfully requested.

6) At the top of page 10 the Office Action indicates that claims 31 to 36 contain allowable subject matter. New independent claim 64 combines the features of claim 29 and allowable claim 31. Therefore, claim 64 and the claims 65, 66 and 67 remaining dependent under claim 64 should now be in condition for allowance.

7) Independent claim 68 is a combination of claims 1 as originally filed and allowable claim 34. Therefore, claim 68 and claims 69 and 70 remaining dependent under claim 68 should now be in condition for allowance.

8) New main independent claim 37 is based on original claim 1 supplemented with the listing of f- and p-elements as originally disclosed on page 4, line 7 to line 21. Most elements that overlap with the disclosures of U. S. Patent 5,500,568 (Nakamura et al.) and U. S. Patent 6,284,393 (Hosokawa et al.) have been

deleted in the specification and not included in new independent claim 37. Therefore and for the reasons set forth below, claim 37 and claims 38 to 48 remaining dependent from main claim 37 should now also be in condition for allowance.

9) Independent claim 49 is based on original claim 13 and the element listings on page 4, line 7 to page 6, line 2 of the originally filed specification, whereby again most elements that overlap with the above mentioned two references have been deleted. Therefore and for the reasons set forth below, claim 49 and claims 50 to 63 should also be in condition for allowance.

10) To facilitate the comparing of the disclosures of Nakamura et al. and Hosokawa et al. with the invention, applicant includes as Exhibit: A three tables, one table for Element f, one Table for Element p, and one table for Element d. These tables compare the listings now set forth in new claims 1 and 13 with the disclosures of Nakamura and Hosokawa et al. Most overlapping elements shown in the references have been excluded from the group listings in amended claims 1 and 13. For example Sc, Y, Eu and Yb have been deleted from the group of f-elements in view of Hosokawa et al. Similarly, Sn, Pb and Bi have been deleted from the group of p-elements in view of Nakamura et al.

11) The "x" in the tables indicates that the respective element is disclosed in the reference. With regard to any remaining overlap, it is applicant's position that the <u>combination</u> of elements as required by the new independent claims 37 and 49 is

neither anticipated nor made obvious by Nakamura et al. and/or Hosokawa et al. More specifically, both claims 37 and 49 call for the negative electrode to contain at least one element from the f-group and at least one element from the p-group. Such a combination is neither shown nor suggested by Nakamura and/or Hosokawa et al. because Hosokawa et al. show for example, with regard to aluminum other aluminum alloys such as aluminum lithium alloys, magnesium aluminum alloys, aluminum calcium alloys, aluminum barium alloys, and aluminum scandium alloys, please see col. 8, lines 30 to 36 of Hosokawa et al. Such aluminum alloys do not anticipate, much less suggest the use of an aluminum titanium alloy for making the negative electrode. In the art of alloying even small changes in the alloy composition of elements have unpredictable results. Therefore, the suggestion of other aluminum alloys as disclosed by Hosokawa et al. does not provide a motivation toward the invention as now more clearly claimed even if Hosokawa et al. is taken in combination with the disclosure of Nakamura et al.

12) With regard to the paragraph bridging pages 3 and 4 of the Office Action, it would appear that the Office Action has merely copied the listings from the present disclosure without regard to the listings actually disclosed in the Nakamura et al. reference. Nakamura et al. discloses the following elements for making the cathode or negative electrode. Namely, the A metals are selected from the group Pb, Sn, and Bi, while the B metals are selected from the group In, Cd, Mn, Ti, Ta, Zr, La, Ca, Li, Ba, Na, Mg, Gd, K, Y and Yb. The listings in the new independent claims 37

and 49 differ in a patentable manner from the listings in Nakamura et al. and from the listings of Hosokawa et al. because with regard to mixtures and alloys it is necessary to look at the claimed combination of elements, because as stated above, even small changes in alloy compositions can have unpredictable results.

13) It would appear, that in the Office Action the rejection based on "inherency" has been applied to "a newly discovered function or property" without regard to the combinations of elements actually claimed for the making of the negative electrode of the EL-device. Therefore, the conclusions reached in the Office Action regarding "inherency" are not based on sound scientific principle. The invention as now more clearly defined in claims 37 and 49 and the claims dependent under these new independent claims, is not merely a "recitation of a newly discovered function or property", but a Markush grouping of actual element <u>combinations</u> neither disclosed nor suggested by the references.

14) Furthermore, the so-called functional limitations have been omitted from the newly defined independent claims 37 and 49 and from the claims remaining dependent. Therefore, withdrawal of the rejection based on "inherency" is respectfully requested. Neither Nakamura et al. nor Hosokawa et al. disclose, much less suggests the combination of f- and p-elements defined in the new claim 37 nor the combination of f-, p-, and d-elements in claim 49.

15) The indication of allowable subject matter in claims 31 to 36 is sincerely appreciated. The withdrawal of all rejections under 35 U.S.C. §102(b) and §102(e) and all rejections under 35 U.S.C. §103(a) and all rejections under the inherency doctrine is respectfully requested as not applicable to new claims 37 to 70 for the reasons stated above.

16) Favorable consideration and allowance of the application, including all present claims 37 to 70, are respectfully requested.

Respectfully submitted,

Hiroyuki FUJII
Applicant

By W. G. Fasse

W. G. Fasse
Patent Attorney
Reg. No.: 21187
Tel. 207-862-4671
Fax. 207-862-4681
P. O. Box 726
Hampden, ME 04444-0726

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Encls.: Three Month
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Exhibit A

CERTIFICATE OF FAX TRANSMISSION:

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Anita Morse - September 27, 2002
Name: Anita Morse - September 27, 2002

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"Marked-Up Version"

TITLE OF THE INVENTION

ORGANIC ELECTROLUMINESCENT DEVICE for EMITTING LIGHT

BACKGROUND OF THE INVENTION

FIELD OF THE INVENTION

The present invention relates to an organic electroluminescent device utilizing an electroluminescent phenomenon produced in organic substances, more particularly to a device which is configured to interpose an organic luminescent medium-containing layer between a positive electrode and a negative electrode and designed to emit light when an electric field is applied thereto.

DESCRIPTION OF RELATED ART

An organic electroluminescent (may be hereinafter referred to as EL) is formed of a thin film containing an organic fluorescent material interposed between positive and negative electrodes, and is such designed that a hole and an electron are injected into the thin film where they recombine to create an electron excited state, such as an exiton. As this excited state is deactivated, light emission occurs (by fluorescence, phosphorescence, delayed fluorescence, luminescent phenomena accompanying transport of energy, or the like). The organic EL device emits light utilizing this mechanism.

Characteristically, the organic EL device is capable of planar light emission with a high level of luminance ranging

greater than that of calcium (Pauling electronegativity value = 1.0) and equal to or less than that of vanadium (Pauling electronegativity value = 1.6), and at least one element, "p", selected from elements having electronegativity values equal to or greater than that of aluminum (Pauling electronegativity value = 1.5).

Examples of useful "f" elements include Be (1.5), ~~Sc (1.3)~~, Ti (1.5), V (1.6), Cr (1.6), Mn (1.5), ~~Y (1.2)~~, Zr (1.4), Nb (1.6), La (1.1), Ce (1.1 - 1.2), Pr (1.1 - 1.2), Nd (1.1 - 1.2), Sm (1.1 - 1.2), ~~Eu (1.1 - 1.2)~~, Gd (1.1 - 1.2), Tb (1.1 - 1.2), Dy (1.1 - 1.2), Ho (1.1 - 1.2), Er (1.1 - 1.2), Tm (1.1 - 1.2), ~~Yb (1.1 - 1.3)~~, Lu (1.1 - 1.3), Hf (1.3) and Ta (1.5), wherein numerical values given in parentheses represent publicly available Pauling electronegativity values. ~~Listed in a literature.~~

Examples of useful "p" elements include H (2.1), B (2.0), C (2.5), N (3.0), O (3.5), F (4.0), Al (1.5), Si (1.8), P (2.1), S (2.5), Cl (3.0), Ga (1.6), Ge (1.8), As (2.0), Se (2.4), Br (2.8), In (1.7), ~~Sn (1.8)~~, Sb (1.9), Te (2.1), I (2.5), Tl (1.8), ~~Pb (1.8), Bi (1.9)~~, Zn (1.6), Cd (1.7) and Hg (1.9), wherein numerical values given in parentheses represent publicly available Pauling electronegativity values. ~~Listed in a literature.~~

In accordance with a second aspect of the present invention, an organic electroluminescent device has a

luminescent material-containing layer interposed between a positive electrode and a negative electrode, and is designed to supply an electrical energy to the luminescent material that emits light upon receipt of the energy. The negative electrode characteristically contains at least one element, "f", selected from elements having electronegativity values greater than that of calcium (Pauling electronegativity value = 1.0) and equal to or less than that of vanadium (Pauling electronegativity value = 1.6), at least one element, "p", selected from elements having electronegativity values equal to or greater than that of aluminum (Pauling electronegativity value = 1.5), and at least one element, "d", selected from elements having electronegativity values equal to or greater than any of those of iron (Pauling electronegativity value = 1.6), cobalt (Pauling electronegativity value = 1.6) and nickel (Pauling electronegativity value = 1.6) and equal to or less than that of gold (Pauling electronegativity value = 2.4), wherein the "d" element selected is the element that is excluded from the selection of the "f" or "p" element.

Examples of useful "d" elements include Mo (1.8), Re (1.9), Fe (1.8), Ru (2.2), Os (2.2), Co (1.8), Rh (2.2), Ir (2.2), Ni (1.8), Pd (2.2), Pt (2.2), Cu (1.9), Ag (1.9), Au (2.4), Hg (1.9), B (2.0), Tl (1.8), Si (1.8), Ge (1.8), Sn (1.8), Pb (1.8), P (2.1), As (2.0), Sb (1.9), Bi (1.9), Se

(2.4) and Te (2.1), wherein numerical values given in parentheses indicate publicly available Pauling electronegativity values. ~~listed in a literature.~~

In a third aspect of the present invention, the element, "p", as used in the aforementioned first and second aspects, is selected from elements having electronegativity values equal to or greater than that of aluminum (Pauling electronegativity value = 1.5), less than that of carbon (Pauling electronegativity value = 2.5), and less than that of iodine (Pauling electronegativity value = 2.5).

It is preferably that those elements, "f", "p" and "d", are selected from different groups in the periodic table, respectively. A preferred element content of the negative electrode material is in the range of 0.1 - 10 % by mass (more preferably in the range of 0.3 - 3 % by mass) for the "f" element, in the range of 0.1 - 99.5 % by mass for the "p" element, and in the range of 0 - 99.8 % by mass for the "d" element. When the three elements, "f", "p" and "d", are all contained in the negative electrode material, it is preferred that a sum of the "p" and "d" element contents is not below 90 % by mass.

In a fourth aspect of the present invention, the luminescent material-containing layer, as used in the first through third aspects, contains at least a host as a principal constituent and a fluorescent dopant. A ratio in